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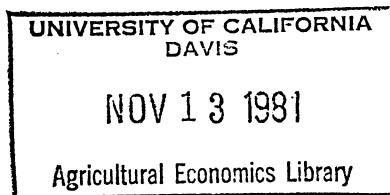
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THE COST OF BORROWED OPERATING CAPITAL: A COMPARISON OF PCA AND FmHA

BY

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Student

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— Texas Tech University
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June 19, 1981

Dr. Raleigh A. Jobes
513 Agriculture Hall
Oklahoma State University
Stillwater, Oklahoma 74078

Dear Dr. Jobes:

I would like to submit the following papers for presentation at the 1981 AAEA summer meetings.

Thank you for your time and consideration.

Sincerely,

Robert Jones

RJ/kc
Enclosure

PROCEDURES TO BE EMPHASIZED
IN OBTAINING A LOAN

1. Interest rate charged.
2. Type of Loan Proceeds Disbursement Policy.
3. Amount of regulation (possible alternatives for unused funds).
4. Amount of paper work required.
5. Time lapse to receive funds.

THE COST OF BORROWED OPERATING CAPITAL: A COMPARISON OF PCA AND FmHA

Introduction

The interest rates farmers now face are significantly higher than in the years past (Schneeberger and Osborn; U.S. Dept. of Agriculture; Sonka, Dixon, and Jones-Melicher; Brake and Melicher) and interest on borrowed operating capital is becoming a larger proportion of production costs. As a result farmers have more incentive to minimize the cost of operating funds used in the farming operation. This involves not only selecting the lowest rate of interest, but also selecting the optimum type of loan proceeds disbursement policy, or the manner in which the operating funds are disbursed. It may also involve factors such as the time in which it takes to get money after the loan is approved, the amount of paperwork involved in processing and maintaining the loan, and the length of time borrowed capital is used compared to the time borrowed capital is paid for.

Two lending agencies were involved in this study, the Production Credit Association (PCA), a cooperative lending agency, and the Farmers Home Administration (FmHA) a governmental lending agency. The quoted rate of interest charged for operating capital has typically been higher at PCA than at FmHA, but the institutions have different loan proceeds disbursement policies. At PCA the loan is set up in the early part of the year in a master note, and the money is not disbursed to the farmer until it is required. This differs from the FmHA, in that FmHA distributes the loan in three checks throughout the year on a pre-arranged schedule.

The objectives of this study were to:

- A. Determine the cost of operating loans from PCA and FmHA on a representative farm for one year. This included determining the:
 - 1. Requirements for borrowed capital for a representative farm in Lubbock County, Texas.
 - 2. Monthly financial requirements for borrowed capital on the representative farm.
 - 3. Cost of stock from PCA.
 - 4. Cost of interest on funds borrowed from PCA and FmHA.
- B. Compare the cost of an operating loan from PCA and FmHA on the representative loan.
- C. Consider the other factors involved in the cost of borrowing money, including the:
 - 1. Amount of regulation.
 - 2. Amount of paperwork required.
 - 3. Time lapse to receive funds.

Methods and Procedures

By taking a sample of 62 loans from PCA in Lubbock, a representative size loan was found. The loans selected were operating loans in which all operating money was borrowed from Lubbock on April 1, 1981. From each loan chosen, three sets of figures were extracted: the amount of cash required by the farmer to operate each month, the total amount disbursed during the year, and the amount of repayment each month. The

average cash flow of borrowed operating capital was determined (table 1) and used as the basis for both the PCA and FmHA loans. The cash flow requirements were met with a monthly disbursement on the PCA loan and three checks were disbursed to cover the requirements on the FmHA loan (table 2).

Because there are only three checks disbursed from the FmHA, a portion of the funds disbursed may not be used immediately. FmHA funds may not be placed in any form of money market or certified deposit, some FmHA funds are put in either pass-book savings or interest bearing checking accounts. Because money in such accounts is unlikely to remain for an extended period of time and individual farmers manage their financial requirements differently, an interest return was not placed on those funds.

When borrowing from PCA, each borrower is required to own two shares of stock for each one hundred dollars borrowed. The value of stock required in a given month was found by multiplying the amount borrowed that month by .11125. This amount plus the amount of operating capital borrowed during the month was the amount on which the interest was charged. 1980 interest rates were used (table 3).

Other costs were determined by interviewing a random sample of ten farmers who have had dealings with both PCA and FmHA. These interviews determined how much significance is put on other costs in the farmer's decision of where to borrow money for operating purposes.

Findings

The cost of the stock with the PCA loan was figured at five dollars per share for 1,400 shares, or \$7,000. Using interest rates shown in table 3 (effective rates were used with the PCA loan) and the pattern of loan disbursements shown in table 2, the costs associated with the \$77,321 loan were developed. The resulting costs, shown as accumulated cost of borrowed funds as a function of time, are given in table 4 and figure 1.

The accumulated annual interest cost with the PCA loan was \$5,777.68 and \$5,434.59 with the FmHA loan. This indicates that under the conditions set forth in this analysis, the cost of borrowing operating capital was lower with FmHA than with PCA for farmers who have the option of borrowing from either FmHA or PCA. However, the difference between the two interest costs is only \$343.09. The average interest rate from PCA in 1980 was 13.38%, and the FmHA rate was 10.5%. While the difference between the two rates is 2.88%, the percentage difference of the actual interest costs as a percentage of the total commitment is only .4%

To examine the extent to which interest rate changes might affect the costs of borrowing money from the two institutions, the analysis was repeated, but with the interest rates which were in effect as of May 1, 1981--14 percent with FmHA and 15.2 percent stated rate with PCA. The PCA rate was still higher, but the spread was less. With these rates held constant for a year, total accumulated costs of the loans were \$6,531.10 at PCA and \$7,245.54 at FmHA (figure 2). Thus,

the narrowing of the spread from 3.4 percent to 1.2 percent reversed the result.

The interviews with farmers relating to the non-monetary costs of borrowing from the two sources revealed that there was no substantial difference in the amount of paperwork needed to process loans and keep the farmer in good standing between the two agencies. On the whole, respondents felt that production cost budgets required by FmHA should be done whether borrowing from PCA or FmHA.

To the farmers interviewed, the one disadvantage mentioned was the time taken to receive funds. The maximum time for the PCA was one week for a regular member, (new loans take as long as two weeks) while FmHA took a minimum of four weeks, and one farmer stated that he had waited two months for his money; during this two month period he had to get interim financing at another lending institution. This tends to indirectly lower the cost of the PCA loan from the farmers point of view.

Most farmers interviewed stated that for a .4 percent difference of interest costs, they would prefer PCA over FmHA.

Summary and Conclusions

The purpose of this study was to determine the costs of borrowed operating capital and to provide the farmer with a means of determining these costs for his own operation.

In finding the costs of borrowed funds, 62 loans were sampled. From these loans the disbursements, repayments and total commitments

were determined and averaged. These factors contributed to the determination of a hypothetical loan and also yielded the cash flow of borrowed capital. Interest calculations for both PCA and FmHA were based on the cash flow of borrowed capital. Other costs which were considered were the cost of stock from PCA and the time lapse between checks from FmHA.

The findings of this study have shown that under the conditions set forth in this study for the 1980 production period, the cost of borrowed operating capital was lower at FmHA than at PCA.

While the spread between the average interest rates was 2.88 percent, it was determined that the actual difference of the two loans in monetary terms was \$343.09 in interest, or .4 percent of the total commitment.

Taking this into consideration, it can be easily seen that as the spread between the average interest rates decreases, the PCA loan will eventually become the less expensive loan, and still have the highest interest rate.

Although the results of this study were relevant to only a few people who would have had dealings with both PCA and FmHA, it should be emphasized that the concepts behind the study would be relevant to anyone involved in the financial community. Many differences exist, in the type of loan proceeds disbursement policies of most lending institutions. Farmers, in general, should become aware of the loan proceeds disbursement policy, as well as the interest rates being charged them, no matter where he obtains an adequate line of credit.

References

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Sonka, S. T., B. L. Dixon, B. L. Jones. "Impact of Farm Financial Structure on the Credit Reserve of the Farm Business." American Journal of Agricultural Economics. Volume 62, Number 3, August. (1980)

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Table 1. Average Cash Flow of Borrowed Operating Capital For Representative Loan.

Month	Disbursements	Repayments
January	4,360	
February	5,621	
March	7,037	538
April	7,010	408
May	5,881	129
June	9,746	1,494
July	8,545	77
August	6,868	2,276
September	7,660	2,756
October	5,800	1,692
November	3,713	10,788
December	5,080	16,981
January		<u>49,751</u>
TOTAL	77,321	86,890

Source: Lubbock Production Credit Association

Table 2. Amounts of Checks Disbursed by PCA and FmHA

Month	PCA	FmHA
January	\$4,360	\$24,028
February	\$5,621	
March	\$7,037	
April	\$7,010	
May	\$5,881	\$31,040
June	\$9,746	
July	\$8,545	
August	\$6,868	
September	\$7,660	\$22,253
October	\$5,800	
November	\$3,713	
December	\$5,080	

Table 3. Interest Rates Used by PCA and FmHA During 1980.

Date	PCA		FmHA
	Stated	Effective ¹	
01-01-80	12.50%	13.94%	10.5%
02-01-80	13.00%	14.50%	10.5%
03-01-80	13.60%	15.16%	10.5%
04-01-80	14.50%	16.17%	10.5%
05-01-80	14.60%	16.28%	10.5%
06-01-80	14.20%	15.83%	10.5%
07-01-80	14.00%	15.61%	10.5%
08-01-80	13.50%	15.05%	10.5%
09-01-80	13.20%	14.72%	10.5%
10-01-80	12.80%	14.27%	10.5%
11-01-80	12.80%	14.27%	10.5%
12-01-80	13.10%	14.61%	10.5%

Source: Lubbock Production Credit Association

¹ Includes cost of stock purchases.

Table 4. Total Interest Costs from PCA and FmHA for the Representative \$77,321 Farm Loan

Month	PCA		FmHA	
	Monthly Cost	Accumulated Cost	Monthly Cost	Accumulated Cost
January	51.44	51.44	210.24	210.24
February	114.56	166.00	210.24	420.48
March	215.26	381.26	210.25	630.72
April	315.09	696.35	210.25	840.98
May	410.03	1106.38	481.84	1322.82
June	504.24	1610.62	481.84	1804.66
July	633.05	2243.67	481.85	2286.51
August	683.95	2927.62	481.85	2768.36
September	709.89	3637.51	676.55	3444.91
October	753.60	4391.11	676.56	4121.47
November	705.36	5096.47	676.56	4798.03
December	681.21	5777.68	676.56	5434.59

Figure 1. Total Cost of Borrowed Money For Production Capital For Representative Loan

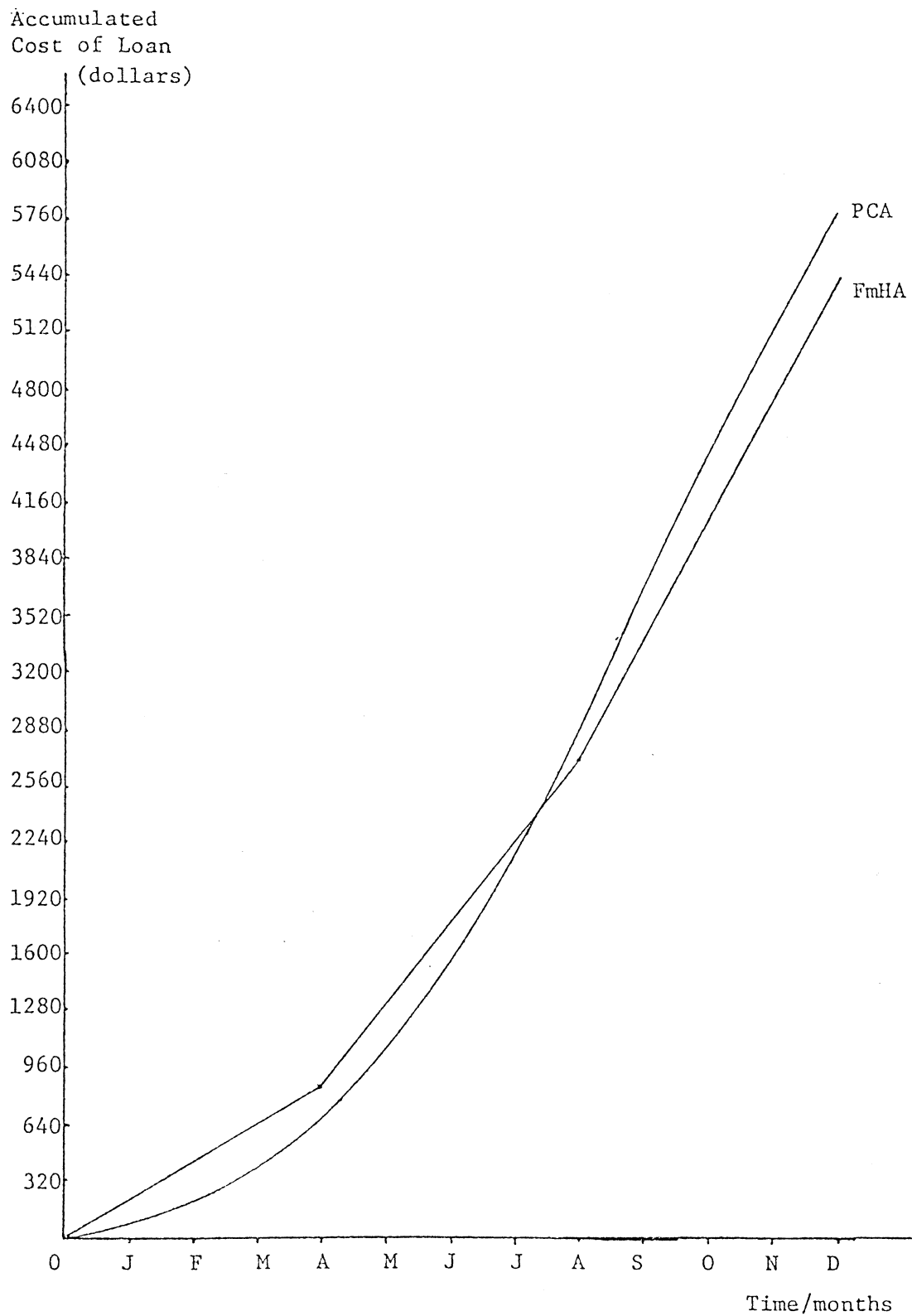


Figure 2. Total Cost of Borrowed Money For Production Capital, May 1981 Interest Rates

